AMENDMENTS TO THE CLAIMS

Please Cancel claims 55 through 61.

1. (currently amended) [The] A method for transmitting binary information from an information stream, comprising the steps of:

(a) generating an R.F. carrier at a select carrier frequency and exhibiting a waveform with a continuous sequence of wavelets each being defined by a 360 degree cycle between crossover positions each of which represents a substantially zero energy level;

(b) receiving said information stream as a given sequence of first and second binary signals;

(c) synchronizing said sequence of first and second binary signals with said carrier continuous sequence of wavelet crossover positions to provide synchronizing control outputs corresponding with said first and second binary signals;

(d) modulating said carrier in response to said synchronizing control outputs by terminating said carrier between an integer number of wavelet defining crossover positions to derive a said first binary signal and transmitting [a] an integer number of said wavelets between said crossover positions within said sequence to derive a said second binary signal permitting said carrier modulation termination and transmission to persist for the interval of at least an integer number of full cycle wavelets; and

(e) broadcasting said modulated carrier.

2. (original) The method of claim 1 in which:

said step (d) for modulating said carrier is carried out by switching said carrier off and on in response to said synchronizing control outputs without effecting a sideband generating distortion thereof.

3. (original) The method of claim 1 in which:

said step (a) for generating an R.F. carrier is carried out by providing a local oscillator having an oscillator output at said carrier frequency; and

said step (c) for synchronizing said binary signals with said carrier sequence of wavelets is carried out by phase tracking said carrier to provide a phase signal identifying said

crossover positions, and combining said phase signal with said given sequence of first and second binary signals to derive said synchronizing control outputs.

4. (original) The method of claim 3 in which said step (c) effects said combining of said phase signal with said sequence of first and second binary signals with select delays for permitting said carrier modulation termination and transmission to persist for the interval of at least a full cycle wavelet.

5. (original) The method of claim 1 in which said step (d) for modulating said carrier includes the step of filtering to remove harmonics from said modulated carrier.

6. (currently amended) The method of claim 1 including the steps of:

([e] f) providing a receiver station having an antenna responsive to said broadcasted modulated carrier and having an antenna output;

([f] g) extracting a received modulated carrier signal from said antenna output without effecting distortion thereof;

([g] h) demodulating said received modulated carrier signal by detecting the respective absence and presence of said wavelets to identify binary information corresponding with said first and second binary signals;

([h] i) deriving a binary information stream from said demodulated received modulated carrier signal; and

([i] j) providing said binary information stream at a receiver output.

7. (currently amended) The method of claim 6 in which said step ([f] g) for extracting a received modulated carrier signal is carried out by non-resonantly pre-amplifying said antenna output to provide a pre-amplified antenna output, and filtering said pre-amplified antenna output to provide a band pass output substantially at said carrier frequency.

8. (currently amended) The method of claim 6 in which:

said step ([g] h) for demodulating said received carrier signal is carried out by providing a reference oscillator with a reference output at said carrier frequency and providing a digital signal processor responsive to said reference output and said received modulated carrier signal to effect a comparison there-between and propagate said first binary signal in the absence

of a said wavelet and said second binary signal in the presence of a wavelet at said received modulated carrier signal.

9. (currently amended) The method of claim 1 including the steps of:

(f) reiterating said step (a) to carry out the generation of n [said] R.F. carriers, each having a unique said carrier frequency.

(g) said step (b) receives said information stream as a serial said given sequence of first and second binary signals each n successive signals of which are arranged as an n-bit binary word;

(h) said steps (c), (d) and (e) are reiterated for each of said n successive signals in conjunction with one of said n R.F. carriers.

10. (currently amended) The method of claim 1 including the steps of:

([e] f) providing a receiver assembly having an antenna responsive to said broadcasted modulated carrier and having an antenna output;

([f] g) extracting a received modulated carrier signal from said antenna output without effecting distortion thereof;

([g] h) providing a receiver local oscillator having a select mixing frequency output;

([h] i) mixing said mixing frequency output with said received modulated carrier signal to derive a mixed output exhibiting intermediate frequency components.

([i] j) filtering said mixed output to derive a select intermediate carrier output at a select said intermediate frequency component;

([J] k) detecting the pulse categorized components of said select intermediate carrier output to derive a binary information output corresponding with said binary information of said information stream; and

([k] l) providing an output binary signal corresponding with said binary information output at a receiver output.

11. (currently amended) The method of claim 10 in which said step ([g] h) provides said select mixing frequency output at a mixing frequency representing an integer multiple of said select carrier frequency.

12. (currently amended) The method of claim 10 in which said step ([g] h) provides said select mixing frequency output at a mixing frequency which is an integer [ration] ratio with respect to said select carrier frequency.

13. (currently amended) The method of claim 12 in which said step ([g] h) provides said select mixing frequency output at a frequency level greater than said select carrier frequency.

14. (currently amended) The method of claim 12 in which said [steep] step ([i] j) in which said select intermediate frequency component is a sum intermediate frequency component.

15. (original) The method of claim 9 including the steps of:

(i) providing a receiver assembly having an antenna assembly responsive to n said modulated carriers to provide an antenna output.

(j) extracting a received modulated complex carrier signal from said antenna output without effecting the distortion thereof;

(k) providing a receiver local oscillator having a select mixing frequency output;

(l) mixing said mixing frequency output with said complex carrier signal to derive a mixed output exhibiting unique frequency components corresponding with the frequencies of said n R.F. carriers;

(m) providing a filtering assembly with n filter stages, each responsive to said mixed output to derive respective n intermediate carrier outputs at n select, spaced discriminate intermediate frequency components; and

(n) providing a detector assembly having n detector stages, each responsive to a respective one of said n intermediate carrier outputs to derive respective n binary information outputs.

16. (original) The method of claim 15 including the step of:

(a) combining said n binary information outputs into a serial binary datastream.

17. (currently amended) The method of claim 1 including the steps of:

(f) reiterating said step (a) to carry out the generation of n [said] R.F. carriers, each having a unique said carrier frequency;

(g) said step (b) receiving n [said] information streams each as a unique said given sequence of first and second binary signals;

(h) said steps (c), (d) and (e) are reiterated for each of said n R. F. carriers to provide a broadcasting of n [said] modulated carriers;

(i) providing a receiver assembly having an antenna assembly responsive to said n modulated carriers to provide an antenna output;

(j) extracting a received modulated complex carrier signal from said antenna output without effecting the distortion thereof;

(k) providing a receiver local oscillator having a select mixing frequency output;

(l) mixing said mixing frequency output with said complex carrier signal to derive a mixed output exhibiting unique frequency components corresponding with the frequencies of said n R.F. carriers;

(m) providing a filtering assembly with n filter stages each responsive to said mixed output to derive respective n intermediate carrier outputs at n select, spaced discriminate intermediate frequency components; and

(n) providing a detector assembly having n detector stages, each responsive to a respective one of said n intermediate carrier outputs to derive respective n binary information outputs.

18. (original) The method of claim 17 including the step of:

(a) combining said n binary information outputs into a serial binary datastream.

19. (currently amended) The method of claim 1 including the steps of:

([e] f) providing a receiver assembly having an antenna exhibiting a broadband reception characteristic providing respective response to said broadcasted modulated carrier and having an antenna output corresponding with said broadband reception;

([f] g) amplifying said antenna output to provide a received signal without effecting distortion of said antenna output;

([g] h) submitting said received signal to a narrow band filtering stage to provide a filtered output corresponding with said modulated carrier;

([h] i) deriving a binary information stream from said filtered output; and

([i] j) providing said binary stream at a receiver output.

20. (currently amended) The method of claim 19 in which said step[s] ([f] g) for amplifying said antenna output is carried out with a Class A amplifier.

21. (currently amended) The method of claim 19 in which said step ([g] h) for submitting said received signal to a narrow band filtering stage is carried out with a crystal implemented R.F. fitter.

22. (currently amended) The method of claim 19 in which said step ([h] i) for deriving a binary information stream is carried out with a squaring amplifier.

23. (currently amended) The method of claim 1 in which said step (c) and said step (d) are carried out by:

responding to said first binary signal and to said R.F. carrier to synthesize a said wavelet at said select carrier frequency as an output condition signal and responding to said second binary signal to provide the absence of a said wavelet as a synthesized said modulated carrier; and

said step ([d] e) is carried out by:

broadcasting said synthesized modulated carrier.

24. (original) The method of claim 23 including the step of filtering said synthesized modulated carrier to enhance the integrity thereof.

25. (original) The method of claim 24 in which said step of responding to said first and second binary signals is carried out with a controllable frequency synthesizer which is controlled in correspondence with said R.F. carrier and said binary information of said information stream.

26. (currently amended) [The] A method for transmitting binary information from an information stream, comprising the steps of:

(a) generating a sinusoid defining R.F. carrier;

(b) receiving said information stream as a sequence of binary signals;

(c) modulating said carrier in correspondence with said sequence of binary signals by terminating an integer number of sinusoidal wavelet portions of said carrier without substantially affecting frequency expanding distortion of said sinusoidal carrier; and

(d) broadcasting said modulated carrier.

27. (original) The method of claim 26 in which said step (c) is carried out by effecting said terminating of portions of said carrier by terminating at least one full cycle of said sinusoid.

28. (original) The method of claim 27 in which said step (c) is carried out by selectively switching said carrier on and off for at least one full cycle of said sinusoid at the crossover locations thereof defining a cycle.

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29. (original) The method of claim 26 in which said step (c) for modulating said carrier is carried out by synthesizing said carrier as a sequence of full cycle wavelets, the presence and absence of which corresponds with first and second binary components of said binary information.

30. (original) The method of claim 29 in which each said full cycle wavelet is substantially a sinusoid which extends between a zero cross-over location at the commencement of a positive-going half-cycle and terminates at a zero cross-over location terminating a negative half-cycle.

31. (currently amended) A system for transmitting binary information from a digital information stream, comprising:

a transmission assembly including:

a local oscillator generating an R.F. carrier at a select carrier frequency exhibiting a waveform with a continuous sequence of wavelets each exhibiting a period of 360 degrees defined between zero crossover positions;

a phase tracking assembly, responsive to said carrier and having a crossover output at said crossover positions defining a said wavelet;

a synchronizer assembly having an input responsive to said digital information stream and to said crossover output and providing synchronizing control outputs corresponding with first and second binary signals representing said binary information;

a modulator assembly responsive to said R.F. carrier and to said synchronizing control outputs for deriving a transmission output by switching said R.F. carrier off at a said crossover position for the said period of [one or more] an integer number of said wavelets to define said first binary signal and for transmitting said carrier for the said period of [one or more] an integer number of said wavelets to define said second binary signal permitting said carrier modulation termination and transmission to persist for the interval of at least an integer number of full cycle wavelets; and

an R. F. transmission assembly including an antenna and responsive to said transmission output far effecting the broadcast thereof at said select carrier frequency as a broadcasted transmission output; and

a receiving assembly including:

a receiving antenna assembly responsive to said broadcasted transmission output to derive an antenna output corresponding therewith;

a filter assembly responsive to said antenna output for deriving a received modulated carrier signal; and

a demodulator assembly responsive to said received modulated carrier signal to detect the respective absence and presence of said wavelets to derive received binary information corresponding with said binary information from said digital information stream.

32. (original) The system of claim 31 in which each said wavelet represents a sinusoid of 360° extent.

33. (original) The system of claim 31 in which said synchronizer assembly includes an ANDing assembly having said synchronizing control outputs upon the synchronized occurrence of said first and second binary signals with a said crossover output.

34. (original) The system of claim 33 in which said synchronizer assembly includes a timing network responsive to said synchronizing control inputs for extending the duration of each to correspond with the said period of at least one said wavelet.

35. (original) The system of claim 31 in which said R.F. transmission assembly includes a Class A amplifier coupled with said antenna and responsive to amplify said transmission output.

36. (original) The system of claim 31 in which said modulator assembly includes a harmonic filter for removing harmonics from said transmission output.

37. (original) The system of claim 31 in which said receiving antenna includes:

a receiving antenna responsive to said broadcasted output; and

a pre-amplifier of Class A configuration coupled with said receiving antenna and deriving said antenna output.

38. (original) The system of claim 31 in which said filter assembly includes a band pass filter responsive to said antenna output and configured for passing substantially only said antenna output at said carrier frequency.

39. (original) The system of claim 31 in which said demodulator assembly comprises:

a first Class A amplifier stage responsive to said received modulated carrier signal to derive an amplified received modulated carrier signal; and

a second Class A amplifier stage responsive to said amplified received modulated carrier signal for deriving said received binary information in rectangular wave form.

40. (original) The system of claim 31 in which said demodulator assembly comprises:

a Class A amplifier stage responsive to said received modulated carrier signal to derive an amplified received modulated carrier signal;

a reference oscillator with a reference output at said carrier frequency; and

a digital signal processor responsive to said reference output and to said amplified received modulated carrier signal to effect a comparison therebetween and propagate said first binary signal in the absence of a said wavelet and said second binary signal in the presence of a wavelet at said amplified received modulated carrier signal.

41. (original) The system of claim 31 in which:

said filter assembly comprises a narrow-bandpass filtering stage provided as a R.F. crystal implemented filter selected for passing said select carrier frequency.

42. (original) The system of claim 31 in which:

said demodulator assembly comprises a squaring amplifier.

43. (currently amended) Apparatus for transmitting binary information from an information stream, comprising:

a local oscillator generating an R.F. carrier at a select carrier frequency, exhibiting a waveform with a continuous sequence of wavelets each extending between zero crossover positions defining wavelet periods of 360 degrees and exhibiting substantially zero electromagnetic wave energy;

a phase tracking assembly responsive to said carrier and having a crossover output at said crossover positions defining a said wavelet;

a synchronizer assembly responsive to said information stream and to said crossover output and deriving synchronizing control outputs corresponding with first and second binary signals representing said binary information;

a modulator assembly responsive to said R.F. carrier and to said synchronizing control outputs and deriving a transmission output by switching said R.F. carrier off at a said crossover position for an integer number of the period of the said wavelet to define said first binary signal and for transmitting said carrier for at least an integer number of the said period of a wavelet commencing and ending with said crossover position to define said second binary signal permitting said carrier modulation termination and transmission to persist for the interval of at least an integer number of full cycle wavelets; and

an R.F. transmission assembly, including an antenna responsive to said transmission output for effecting the broadcast thereof.

44. (original) The apparatus of claim 43 in which each said wavelet represents a sinusoid of 360° extent.

45. (original) The apparatus of claim 43 in which said synchronizer assembly includes an ANDing assembly having said synchronizing control outputs upon the synchronized occurrence of said first and second binary signals with a said crossover output.

46. (original) The system of claim 45 in which said synchronizer assembly includes a timing network responsive to said synchronizing control inputs for extending the duration of each to correspond with the said period of at least one said wavelet.

47. (original) The system of claim 43 in which said R.F. transmission assembly includes a Class A amplifier coupled with said antenna and responsive to amplify said transmission output.

48. (original) The system of claim 43 in which said modulator assembly includes a harmonic filter for removing harmonics from said transmission output.

49. (original) A system for transmitting binary information from a digital information stream, comprising:

a transmission assembly including:

a local oscillator generating an R.F. carrier at a select carrier frequency exhibiting a waveform with a continuous sequence of wavelets each exhibiting a period defined between zero crossover positions;

a phase tracking assembly, responsive to said carrier and having a crossover output at said crossover positions defining a said wavelet;

a synchronizer assembly having an input responsive to said digital information stream and to said crossover output and providing synchronizing control outputs corresponding with first and second binary signals representing said binary information;

a modulator assembly responsive to said R.F. carrier and to said synchronizing control outputs for deriving a transmission output by switching said R.F. carrier off at a said crossover position for the said period of one or more said wavelets to define said first binary signal and for transmitting said carrier for the said period of one or more said wavelets to define said second binary signal; and

an R.F. transmission assembly including an antenna and responsive to said transmission output for effecting the broadcast thereof at said select carrier frequency as a broadcasted transmission output;

a receiving assembly including:

a receiving antenna assembly responsive to said broadcasted transmission output to derive an antenna output corresponding therewith;

a receiver local oscillator having a select mixing frequency output;

a mixer assembly responsive to said select mixing frequency output and to said antenna output to derive a mixed output exhibiting intermediate frequency components;

a filter assembly responsive to said mixed output to derive a select intermediate carrier output at a select said intermediate frequency component; and

a detector assembly responsive to said select intermediate carrier output to derive a binary information output corresponding with said binary information of said digital information stream.

50. (original) The system of claim 49 in which receiver local oscillator select mixing frequency output is an integer multiple of said select carrier frequency.

51. (currently amended) The system of claim 49 in which said receiver local oscillator select mixing frequency output is at a mixing frequency which is an integer [ration] ratio with respect to said select carrier frequency.

52. (original) The system of claim 51 in which said select mixing frequency output mixing frequency is greater than said select carrier frequency.

53. (original) The system of claim 51 in which said select intermediate frequency component is a sum intermediate frequency component.

54. (original) The system of claim 49 in which:

said transmission assembly is reiterated as n transmission assemblies providing n discrete said broadcasted transmission outputs.

said receiving antenna assembly is responsive to said n discrete broadcasted transmission outputs to provide said antenna output corresponding therewith;

said filter assembly includes n filter stages each responsive to said mixed output to derive respective n said intermediate carrier outputs at n select, spaced discriminate intermediate frequency components; and

said detector assembly includes n discriminator stages responsive to respective said n intermediate carrier outputs to derive n respective said binary information outputs.

55. (canceled)

56. (canceled)

57. (canceled)

58. (canceled)

59. (canceled)

60. (canceled)

61. (canceled)

62. (new) A modulated radio frequency carrier capable of transmitting a binary information stream made up of first and second binary states comprising:

a carrier frequency waveform made up of a continuous sequence of wavelets;

said wavelets being defined by a 360 degree cycle between crossover positions; said crossover positions representing a substantially zero energy level; and,

said wavelets having been modulated in accordance with said information stream by having deleted an integer number of said wavelets corresponding to said first binary states of said information stream and not having deleted an integer number of said wavelets corresponding [to said] to said second binary states of said information stream.

63. (new) The modulated radio frequency carrier of claim 62 wherein:

any harmonics of said modulated radio frequency carrier that were generated when said wavelets were deleted have been reduced by filtering.